Advances in cataract surgical technology have continually elevated the benchmarks in refractive outcomes, and patient expectations have risen along with them. The most precise surgeons can predictably achieve a postoperative result within ±0.50 D of target refraction in more than 90% of eyes. We have the ability today to help our patients achieve excellent vision and the spectacle independence they desire to maintain their lifestyle activities.

The key to successful surgical outcomes begins with getting to know your patients, understanding their needs, and setting clear and realistic expectations. We must partner with patients to achieve a reasonable mutual understanding of expected outcomes while also educating them on the potential surgical risks.

A detailed history and a thorough clinical examination are the first steps in the evaluation. As the primary doctor following the patient, the optometrist is best suited to identify and treat ocular problems before the surgical evaluation. Optimizing conditions such as ocular surface disease (OSD) helps to prepare the eye for best results while also streamlining visits with the operating surgeon. Further examination of the posterior segment for any potential hindrance to excellent postoperative vision is essential to let the surgeon know about any red flags. Let’s look at each of these steps in turn.

**GATHERING CLUES**

Even from the initial conversation with the patient and ocular history-taking, we can begin to gather clues. What symptoms are most bothersome to the patient? What are his or her goals after cataract surgery?

For example, if a patient is experiencing intermittent blur, especially in relation to reading and computer vision syndrome, this may suggest that the presence of OSD is affecting his or her vision, perhaps even more so than the cataracts. It also helps us understand the patient’s needs and expectations for improved near vision after surgery.

If this same patient also complains of nighttime glare and halos, we gain insights into which IOLs might be best...
for him or her. Extended depth of focus (EDOF) IOLs, a category of IOL that has emerged in the past few years, may be helpful for this type of patient. EDOF lenses can give patients additional intermediate depth of focus with less risk of dysphotopsias than may be seen with traditional multifocal IOLs.

Many practices use a questionnaire such as the Dell questionnaire to gauge patients’ visual demands for all three vision ranges (ie, distance, intermediate, and near). This type of survey is also important for documenting patients’ choices and helping to set realistic expectations regarding spectacle independence and glare.

In discussing a patient’s previous surgical and medical history, extra effort should be made to document any previous myopic or hyperopic laser correction. If the patient does not remember his or her original refractive error, corneal topography can reveal an oblate cornea after myopic LASIK, or a patient’s old pair of glasses from before laser surgery may offer information.

If a patient has a significant systemic medical history, obtaining a medical clearance from the patient’s primary care physician may help expedite the path to surgery.

**THOROUGH ASSESSMENT**

A thorough preoperative examination and reliable biometry are the foundations for consistent results and happy patients. Before any conversation about cataracts and IOL options takes place, the practitioner should perform a full examination of the patient’s ocular health, looking for all comorbidities. Even subclinical disease might become exacerbated by the stresses of surgery and prevent an eye from seeing 20/20 postoperatively or affect the reliability of preoperative biometry.

Addressing treatable external conditions such as blepharitis and meibomian gland disease can help improve the patient’s ocular surface, optimize visual outcomes, and reduce the risks of endophthalmitis. Take note of any small tropias or phorias that might become symptomatic and necessitate prism lenses after surgery.

Obtaining consistent corneal topography is paramount in treating astigmatism. In evaluating the cornea, ocular surface staining and pooling patterns can detect subclinical OSD, including dry eye disease (DED), anterior basement membrane dystrophy, or Salzmann nodular degeneration.

It has been estimated that 77% of cataract patients have DED, but most of these patients have never been diagnosed or treated. A small change in the tear film due to OSD can lead to a significant change (>1.30 D) in refraction.

**OPTIMIZING THE SURFACE AND BEYOND**

Efforts to optimize the ocular surface can begin with simple interventions such as artificial tears and meibomian gland expression with one of a number of devices on the market. More severe OSD may require something more involved, such as amniotic membrane placement, before referring a patient to consultation for cataract surgery. If a corneal topographer is available, evaluation of irregular astigmatism and corneal pathology can help to direct treatment and gauge its effect.

The corneal endothelium should be examined for signs of Fuchs dystrophy (Figure), Krukenberg spindles, or signs of previous iritis. Any of these diseases can delay the healing course of the eye, leading to corneal edema, high IOP, or persistent iritis after surgery. An eye with pachymetry greater than 600 µm may benefit from endothelial transplantation performed in conjunction with cataract surgery.

Remember that the cloudiness of the patient’s lens should match the level of his or her visual acuity. Poor vision in the presence of a mild lens opacity may be a clue to a retinal pathology. If one eye has worse vision than the other, that eye’s cataract should also be more dense or have more posterior opacity. If the clinical gestalt does not line up, then the practitioner should look further and think of cataracts as a diagnosis of exclusion.

If phacodonesis is present, as is found in eyes with previous trauma or pseudoxfoliation syndrome, then that patient may not be a candidate for an advanced technology IOL or...

**AT A GLANCE**

- A detailed history and a thorough clinical examination are the first steps to patient satisfaction after cataract surgery.
- Identifying and treating subclinical conditions helps to ensure accurate biometry.
- From the cornea to the macula, any problems that could interfere with a good refractive result of cataract surgery should be identified and addressed, if possible.
a toric lens due to the possibility of poor lens centration.

Often, vitreous floaters may become more symptomatic to a patient after a cataract is removed because more light is now reaching the retina. A macular OCT is highly recommended for all patients being evaluated for surgery to help diagnose subclinical retinal disease such as macular degeneration, epiretinal membrane, cystoid macular edema, or vitreomacular traction. The OCT also helps document a preoperative baseline.

Diabetic macular edema and wet age-related macular degeneration should be treated and dried up with anti-VEGF injections as much as possible before surgery. This may require coordination with retina colleagues.

The optic nerve can show signs of previous optic neuropathy or early glaucoma, either of which can cause reduced contrast sensitivity or central scotomas postoperatively. Any suspicion of optic nerve pathology warrants a preoperative visual field test for both screening and documentation purposes.

As much as cataract surgery is an opportunity to correct a patient’s refractive error, the availability of microinvasive glaucoma surgery, or MIGS, has also made it an opportunity to address glaucoma in patients with concomitant disease. MIGS performed in conjunction with cataract surgery can change the course of a patient’s glaucoma treatment, potentially saving the patient from a lifetime of applying eye drops.

**DOCTOR-PATIENT TRUST**

Whether for the referring doctor or for the primary surgeon, establishing a trusting doctor-patient relationship through open communication is the foundation for any treatment plan. Most important, we must set clear, realistic expectations for patients’ postsurgical outcomes and obtain consensus about our goals.

A full understanding of the patient’s total systemic health and a thorough and methodical evaluation of the presurgical eye will help mitigate surprises for both doctor and patient. If any eye conditions are identified, the physician should communicate to the patient the presurgical baseline findings and initiate an aggressive treatment strategy to address subclinical disease, especially OSD.

A proactive doctor-patient partnership approach to the presurgical eye is the key to optimizing surgical outcomes and making patients happy.

---


---

**RICHARD CHU, DO**

Medical Director, Chu Eye Institute, Fort Worth, Texas
drrichard@chueye.com

Financial disclosure: Principal Investigator (Alcon); Consultant (Sight Sciences); Speaker (Bausch + Lomb)

**ROBERT CHU, OD**

Managing Director, Eyeworks Group, Fort Worth, Texas

Founder and Co-President, TEC The Eye Consortium

Member, Modern Optometry Editorial Advisory Board

DrRobert@eyeworksgroup.com; www.eyeworksgroup.com

Financial disclosures: Consultant (Alcon, Sight Sciences)